THE MULTISECTION OF ANGLES.

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THE problem of the multisection of angles is afforded a general solution by a plane curve called the Chordel. This curve was discovered about three years ago by J. Buren Miller, B. S., of Rutgers College, and a geometrical discussion of the curve was published in Van Nostrand's Engineering Magazine for March, 1880. Mr. Miller defines the Chordel to be a plane curve, generated by one of the points of intersection of a series of right lines which shall intersect in such a manner that each line will contain two points of intersection at a given distance apart, the lines moving so that they shall constantly be in the same plane, their points of intersection equally distant from a fixed point in the plane, and one of their points of intersection constantly remaining on a fixed line in the plane. From this definit'n it is evident that the curve may be constructed mechanically as follows:

Take a ruler of any convenient length which is divided by hinges into n equal parts. At every joint, and at the extremities of the ruler, attach cords of equal length. Pass the cords around a pin or any fixed point. In the same plane draw any line for a directrix, and let a pencil point be attached to the ruler at one extremity or at any joint. Then move the ruler in the plane so that the other extremity of the ruler will constantly touch the directrix and the cords be taut. Every joint will describe a Chordel. The distance between two joints is called an element of the curve; the fixed p't is called the focus.

From the foregoing definition it is evident that Prof. Nicholson's "Polyode" described in the March ANALYST, and Dr. Hillhouse's curve given in the November ANALYST, are only cases of the Chordel; that is, they are Chordels of two elements.

ANOTHER SOLUTION OF PROB. 434. BY PROF. E. B. SEITZ.—"Find a number, the mantissa of the logarithm of which equals the number."

By reference to a table of logarithms, we find that $\log .1371 = \bar{1}.137037$, and $\log .1372 = \bar{1}.137354$; therefore let $\log(.1371+x) = \bar{1}.1371+x$. But $\log(.1371+x) = \log .1371 + \log\left(1+\frac{x}{.1371}\right) = \bar{1}.137037 + .434294.\frac{x}{.1371}$ All the powers of x above the first being very small are omitted. Therefore

$$\bar{1}.137037 + .434294 \times \frac{x}{.1371} = \bar{1}.1371+x,$$

whence $x = .000029$. Therefore the required number is .137129.